

## ABSTRACT

## A METHOD OF CIRCUIT VERIFICATION IN DIGITAL DESIGN

5 The present invention relates to a method of circuit verification in digital design and in particular relates to a method of register transfer level property checking to enable the same. Today's electrical circuit designs frequently contain up to several million transistors and circuit designs need to be checked to ensure that circuits operate  
10 correctly. Formal methods for verification are becoming increasingly attractive since they confirm design behaviour without exhaustively simulating a design. The present invention provides a digital circuit design verification method wherein, prior to a property checking process for each property of a non-reduced RTL model, a reduced RTL model is determined, which reduced RTL model retains specific signal properties  
15 of a non-reduced RTL model which are to be checked. A linear signal width reduction causes an exponential reduction of the induced state space. Reducing state space sizes in general goes hand in hand with reduced verification runtimes, and thus speeding up verification tasks.

20 Fig. 3